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VEHICLE OCCUPANT PRESENCE AND POSITION SENSING SYSTEM

ABSTRACT

The invention characterizes a seat occupant. Sensors in the seat determine the position of a seat occupant relative to the seat. The position of the seat relative to the vehicle combined with the position of the seat occupant relative to the seat determines the location of the seat occupant relative to the vehicle. The seat occupant is characterized by the magnitude and Q of capacitance between electrodes in the seat and other indications. Situations wherein airbag deployment is not desired are identified. The position of the occupant relative to the seat, the weight of the seat occupant, whether the seat belt is latched, the track position and recline angle of the vehicle seat and vehicle deceleration during a crash are combined with capacitance and other measurements to estimate the position of the occupant relative to a possible deploying airbag as the occupant moves toward the airbag during a crash.